a) amino acid sequence SEQ ID NO: 1; or

b) amino acid sequence SEQ ID NO: 2; or

c) the amino acid sequences of a) or b), further having a Met at position -1; or

d) the amino acid sequence of a) or b), further having a leader sequence at the N-terminal, -1 position, wherein said leader sequence consists essentially of the following amino acid sequence from positions -38 to -1:

Gly His Arg Arg Arg Ser Ser Ala Gln Arg Asp Thr Arg Glu Pro Thr Met Ala Pro Phe Asp Pro Trp Leu Leu His Pro Val Val Ala Val Ala Asp Ser Pro Ser Arg Ala (SEQ ID NO: 3); or

e) the amino acid sequence of a) or b) further having a leader sequence at the N-terminal, -1 position, wherein said leader sequence consists essentially of the following amino acid sequence from positions -22 to -1: Met Ala Pro Phe Asp Pro Trp Leu Leu His Pro Val Val Ala Val Ala Asp Ser Pro Ser Arg Ala (SEQ ID NO: 4).

26. (New) The purified collagenase inhibitor protein of claim 25, wherein said protein comprises SEQ ID NO: 1, and wherein SEQ ID NO: 1 further comprises a glycine (Gly) at position 28, a threonine (Thr) at position 43, a glycine (Gly) at position 48, an alanine (Ala) at position 111, a glutamine (Glu) at position 125, and a threonine (Thr) at position 128, and optionally a methionine (Met) is at position -1.

27. (New) A recombinant plasmid or viral vector, wherein said recombinant plasmid or viral vector comprises DNA encoding a collagenase inhibitor protein, wherein said protein consists essentially of an amino acid sequence selected from among the following:

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

a) amino acid sequence SEQ ID NO: 1; or

b) amino acid sequence SEQ ID NO: 2; or

c) the amino acid sequences of a) or b), further having a Met at position -1; or

d) the amino acid sequence of a) or b), further having a leader sequence at the N-terminal, -1 position, wherein said leader sequence consists essentially of the following amino acid sequence from positions -38 to -1:

Gly His Arg Arg Arg Ser Ser Ala Gln Arg Asp Thr Arg Glu Pro Thr Met Ala Pro Phe Asp Pro Trp Leu Leu His Pro Val Val Ala Val Ala Asp Ser Pro Ser Arg Ala (SEQ ID NO: 3); or

e) the amino acid sequence of a) or b) further having a leader sequence at the N-terminal, -1 position, wherein said leader sequence consists essentially of the following amino acid sequence from positions -22 to -1: Met Ala Pro Phe Asp Pro Trp Leu Leu His Pro Val Val Ala Val Ala Asp Ser Pro Ser Arg Ala (SEQ ID NO: 4).

28. (New) A recombinant plasmid or viral vector, wherein said recombinant plasmid or viral vector comprises DNA encoding a collagenase inhibitor protein, wherein said protein comprises SEQ ID NO: 1, and wherein SEQ ID NO: 1 further comprises a glycine (Gly) at position 28, a threonine (Thr) at position 43, a glycine (Gly) at position 48, an alanine (Ala) at position 111, a glutamine (Glu) at position 125, and a threonine (Thr) at position 128, and optionally a methionine (Met) is at position -1.

29. (New) A eukaryotic or prokaryotic host cell transformed or transfected with the recombinant plasmid or viral vector of claim 27.

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

30. (New) A eukaryotic or prokaryotic host cell transformed or transfected with the recombinant plasmid or viral vector of claim 28.

31. (New) A process for producing a collagenase inhibitor protein, comprising:

a) culturing the host cell of claim 29, under conditions wherein said host cell expresses said collagenase inhibitor; and

b) collecting said expressed collagenase inhibitor.

32. (New) A process for producing a collagenase inhibitor protein, comprising:

a) culturing the host cell of claim 30, under conditions wherein said host cell expresses said collagenase inhibitor; and

b) collecting said expressed collagenase inhibitor.

33. (New) A recombinant-DNA method for microbial production of a collagenase inhibitor comprising:

(a) culturing a host microorganism under conditions where said collagenase inhibitor is expressed, said host microorganism containing the vector pUC9-F5/237P10, said vector comprising a nucleotide sequence encoding a collagenase inhibitor;

(b) culturing said host microorganism under conditions appropriate for expression of said collagenase inhibitor; and

(c) harvesting said collagenase inhibitor.

34. (New) The method of claim 33, wherein said host microorganism is a bacterium.

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

35. (New) The method of claim 34, wherein said bacterium is a member of the genus *Bacillus*.

36. (New) The method of claim 35, wherein said bacterium is *Bacillus subtilis*.

37. (New) The method of claim 34, wherein said bacterium is *Escherichia coli*.

38. (New) The method of claim 34, wherein said bacterium is a member of the genus *Pseudomonas*.

B22 cont'd

39. (New) The method of claim 38, wherein said bacterium is *Pseudomonas aeruginosa*.

40. (New) The method of claim 33, wherein said host microorganism is a yeast.

41. (New) The method of claim 40, wherein said yeast is *Saccharomyces cerevisiae*.

42. (New) A host microorganism comprising the vector of claim 27 or 28.--

REMARKS

Applicants have amended the specification to correct errors of grammar and spelling, and/or to make amendments that were made in the parent, U.S. Application No. 09/452,817 (the '817 application). Specifically, Table 1, setting forth the amino acid sequence encoded by DNA from one embodiment of the portable DNA sequence, was added to the '817 application. Therefore, no new matter has been added by these changes.

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000